

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings of claims in the present application.

What Is Claimed Is:

1-6. (canceled)

7. (currently amended) An image processing method comprising:

performing continuous shooting by using a camera rotatably supported by a predetermined member at timings of different angles of rotation while said member is rotated, with a direction generally perpendicular to a plane of rotation as a shooting direction, an axis of rotation of the camera being displaced from a line of the shooting direction;

accepting a plurality of images obtained by said continuous shooting;

extracting images of objects to be parallel with each other from said plurality of images, respectively;

detecting the angles of rotation from tilts of said plurality of images, respectively, with reference to the images of said objects; and

relatively rotating said plurality of images based on the angles of rotation to obtain images parallel with each other.

8. (currently amended) An image processing method comprising:

performing continuous shooting by using a camera rotatably supported by a predetermined member at timings of different angles of rotation while said member is rotated,

with a direction generally perpendicular to a plane of rotation as a shooting direction, an axis of rotation of the camera being displaced from a line of the shooting direction;

detecting the angles of rotation at respective shooting timings during said continuous shooting;

accepting a plurality of images obtained by said continuous shooting;

acquiring data on the angles of rotation detected of said plurality of images, respectively;

and

relatively rotating said plurality of images based on the angles of rotation to obtain images parallel with each other;

wherein the axis of rotation being displaced from the direction of shooting of the camera.

9. (currently amended) The image processing method according to ~~claim 6~~claim 8, wherein:

said predetermined member is a generally annular rotor with its circular surface as the plane of rotation;

said camera is supported in a position near an outer periphery of said rotor, and when said rotor is rotated, makes a circular movement with a distance from the center of rotation as a radius; and

in the performing continuous shooting, said plurality of images are shot from a plurality of positions in an orbit of said circular movement.

10. (original) The image processing method according to claim 7, wherein:

said predetermined member is a generally annular rotor with its circular surface as the plane of rotation;

said camera is supported in a position near an outer periphery of said rotor, and when said rotor is rotated, makes a circular movement with a distance from the center of rotation as a radius; and

in the performing continuous shooting, said plurality of images are shot from a plurality of positions in an orbit of said circular movement.

11. (currently amended) An image processing apparatus comprising:

an image input unit for accepting a plurality of images shot by using a camera rotatably supported by a predetermined member from positions of different angles of rotation, with a direction generally perpendicular to a plane of rotation of said member as a shooting direction, an axis of rotation of the camera being displaced from a line of the shooting direction;

an extracting unit for extracting images of objects to be parallel with each other from said plurality of images, respectively;

a tilt detecting unit for detecting the angles of rotation from tilts of said plurality of images, respectively, with reference to the images of said objects; and

a rotation processing unit for relatively rotating said plurality of images based on the angles of rotation to obtain images parallel with each other.

12. (currently amended) An image processing apparatus comprising:

an image input unit for accepting a plurality of images shot by using a camera rotatably supported by a predetermined member from positions of different angles of rotation, with a

direction generally perpendicular to a plane of rotation of said member as a shooting direction,
an axis of rotation of the camera being displaced from a line of the shooting direction;

an angle input unit for acquiring data on the angles of rotation; and

a rotation processing unit for relatively rotating said plurality of images based on the angles of rotation to obtain images parallel with each other.

13. (currently amended) The image processing apparatus according to ~~claim 9~~claim 11, wherein:

said predetermined member is a generally annular rotor with its circular surface as the plane of rotation;

said camera is supported in a position near an outer periphery of said rotor, and when said rotor is rotated, makes a circular movement with a distance from the center of rotation as a radius; and

said image input unit accepts said plurality of images shot from a plurality of positions in an orbit of said circular movement.

14. (currently amended) The image processing apparatus according to ~~claim 10~~claim 12, wherein:

said predetermined member is a generally annular rotor with its circular surface as the plane of rotation;

said camera is supported in a position near an outer periphery of said rotor, and when said rotor is rotated, makes a circular movement with a distance from the center of rotation as a radius; and

said image input unit accepts said plurality of images shot from a plurality of positions in an orbit of said circular movement.

15. (currently amended) ~~The~~An image processing apparatus according to claim 9, further comprising:

an image input unit for accepting a plurality of images shot by using a camera rotatably supported by a predetermined member from positions of different angles of rotation, with a direction generally perpendicular to a plane of rotation of said member as a shooting direction;

an extracting unit for extracting images of objects to be parallel with each other from said plurality of images, respectively;

a tilt detecting unit for detecting the angles of rotation from tilts of said plurality of images, respectively, with reference to the images of said objects;

a rotation processing unit for relatively rotating said plurality of images based on the angles of rotation to obtain images parallel with each other;

a distance calculating unit for calculating a distance between a plurality of shooting positions based on the radius of rotation of said camera and a difference between the angles of rotation;

a parallax detecting unit for detecting a parallax between corresponding points from said plurality of images; and

a distance measuring unit for measuring a distance to a subject based on the parallax and the distance between said shooting positions.

16. (currently amended) ~~The~~An image processing apparatus according to ~~claim 10~~, further comprising:

an image input unit for accepting a plurality of images shot by using a camera rotatably supported by a predetermined member from positions of different angles of rotation, with a direction generally perpendicular to a plane of rotation of said member as a shooting direction;

an angle input unit for acquiring data on the angles of rotation;

a rotation processing unit for relatively rotating said plurality of images based on the angles of rotation to obtain images parallel with each other;

a distance calculating unit for calculating a distance between a plurality of shooting positions based on the radius of rotation of said camera and a difference between the angles of rotation;

a parallax detecting unit for detecting a parallax between corresponding points from said plurality of images; and

a distance measuring unit for measuring a distance to a subject based on the parallax and the distance between said shooting positions.

17. (currently amended) The image processing apparatus according to ~~claim 9~~claim 11, further comprising an interpolation unit for interpolating said plurality of images based on the angles of rotation and the radius of rotation of said camera, thereby obtaining an image to be shot from a desired point of view.

18. (currently amended) The image processing apparatus according to ~~claim 10~~claim 12, further comprising an interpolation unit for interpolating said plurality of images based on

the angles of rotation and the radius of rotation of said camera, thereby obtaining an image to be shot from a desired point of view.

19-20. (cancelled)

21. (currently amended) A computer-readable recording medium containing a program for making a computer exercise functions of:

accepting a plurality of images shot by using a camera rotatably supported by a predetermined member from positions of different angles of rotation, with a direction generally perpendicular to a plane of rotation of said member as a shooting direction, an axis of rotation of the camera being displaced from a line of the shooting direction;

extracting images of objects to be horizontal references from said plurality of images, respectively;

detecting the angles of rotation from tilts of said plurality of images, respectively, with reference to the images of said objects; and

relatively rotating said plurality of images based on the angles of rotation to obtain images parallel with each other.

22. (currently amended) A computer-readable recording medium containing a program for making a computer exercise functions of:

accepting a plurality of images shot by using a camera rotatably supported by a predetermined member from positions of different angles of rotation, with a direction generally

perpendicular to a plane of rotation of said member as a shooting direction, an axis of rotation of the camera being displaced from a line of the shooting direction;

acquiring data on the angles of rotation; and

relatively rotating said plurality of images based on the angles of rotation to obtain images parallel with each other.